

REMARKS/ARGUMENTS

The Office Action mailed November 12, 2004 has been carefully considered.
Reconsideration in view of the following remarks is respectfully requested.

Claim Status and Amendment to the Claims

Claims 1-54 are now pending.

Applicants are grateful for the indication of allowability of claims 11, 23, 35, and 47, subject to their re-writing in independent form including all of the limitations of the base claim and any intervening claims. New claims 51, 52, 53, and 54 represent claims 11, 23, 35, and 47, respectively, rewritten in independent form to include the limitations of independent claim and intervening claims.

Claims 8, 20, 32, and 44 have been amended to further particularly point out and distinctly claim subject matter regarded as the invention. Support for these changes may be found in the specification, ¶ 61. The text of claims 10, 11, 22, 23, 34, 35, 46, and 47 are unchanged, but their meaning is changed because they depend from amended claims.

The 35 U.S.C. §102 Rejection

Claims 1-8, 13-20, 25-32, and 37-44 stand rejected under 35 U.S.C. §102(a) as being anticipated by Aune^{1, 2}

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.”³ “The identical invention must be shown in as complete detail as is contained in the ... claim.”⁴

Claim 1

Claim 1 recites:

A method for on-demand management of Internet Protocol (IP) address pools, the method comprising:
allocating an unused IP address from a local IP address pool designated for a remote domain if a request to connect to said remote domain is received, said local IP address pool comprising one or more of at least one subnet obtained from a global IP address pool, each of said at least one subnet specifying a contiguous set of one or more IP addresses;
deallocating an IP address back to said local IP address pool if said IP address is unused; and
apportioning one or more of said at least one subnet between said global IP address pool and said local IP address pool based upon utilization of said local IP address pool.

The Examiner states:

... Aune teaches a method and apparatus for on-demand management of Internet Protocol (IP) address pools, the apparatus comprising:
an allocator to allocate an unused IP address from a local IP address pool designated for a remote domain if a request to connect to said remote domain is

¹ WO 01/17199.

² Office Action dated November 12, 2004, ¶ 2.

³ *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987)

⁴ *Richardson v. Suzuki Motor Co.*, 869 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). *See also*, M.P.E.P. §2131.

received, said local IP address pool comprising one or more of at least one subnet obtained from a global IP address pool, each of said at least one subnet specifying a contiguous set of one or more IP addresses, said allocator coupled to said local IP address pool (see lines 16-30 of page 4); a deallocator to deallocate an IP address back to said local IP address pool if said IP address is unused, said deallocator coupled to said local IP address pool (see paragraph bridging pages 4 and 5); and a monitor to apportion one or more of said at least one subnet between said global IP address pool and said local IP address pool based upon utilization of said local IP address pool, said monitor coupled to said local IP address pool and a global IP address pool interface (see lines 4-27 of page 5 and lines 5-11 of page 6).⁵

The Applicants respectfully disagree. Contrary to the Examiner's statement, Aune does not show the identical invention in as complete detail as contained in the claim.⁶ In more detail, Aune does not disclose where each of said at least one subnet specifies a contiguous set of one or more IP addresses. The Examiner cites the following portion of Aune:

The new solution will still keep one IP-pool per external network for the whole GPRS-system. When a processor receives a request for a dynamic IP-address from a mobile- subscriber, it will signal the global processor that it needs an IP-address. The global processor will now give out a pack of addresses to the requesting processor instead of one address. The processor receiving the addresses will then give one of the addresses to the subscriber and keep the rest of the addresses in an internal storage. When a new subscriber asks for another address the processor now has its own, small IP-pool, from which it can give out an address. After a while, when the processor receives yet another request for an address, and its local IP-pool is empty, it requests the global processor again, and receives another pack of addresses.⁷

Thus, Aune merely discloses giving out a *pack* of addresses; it says nothing about a contiguous set of one or more IP addresses. The Examiner is reminded that the mere

⁵ Office Action ¶ 3.

⁶ *Richardson v. Suzuki Motor Co.*, 869 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). *See also*, M.P.E.P. §2131.

⁷ Aune, p. 4, ll. 16-30.

absence from a reference of an explicit requirement of a claim cannot be reasonably construed as an affirmative statement that the requirement is in the reference.⁸

Additionally, Aune does not disclose allocating an unused IP address from a local IP address pool designated for a remote domain *if a request to connect to said remote domain is received*. Rather Aune discloses that when a processor receives a request for a dynamic IP-address from a mobile-subscriber, it will signal the global processor that it needs an IP-address.⁹ Thus, Aune describes a process that takes place when a request *for an IP address* is received.

Additionally, Aune does not disclose a deallocator to deallocate an IP address back to said local IP address pool if said IP address is unused. The Examiner cites the following portion of Aune:

Regarding release of the addresses the system works the same way. The remote processor will not release an address before a whole group of addresses should be released. This assures that the addresses will be spread out between processors, which needs them.¹⁰

Thus, the reference cited by the Examiner refers to the release of an address by a remote processor when a group of addresses should be released. It says nothing about deallocating an IP address *back to a local IP address pool* if the IP address is unused.

Additionally, Aune does not disclose a monitor to apportion one or more of said

⁸ *In re Evanega*, 829 F.2d 1110, 4 USPQ2d 1249 (Fed. Cir. 1987).

⁹ Aune, p. 4, ll. 17-20.

¹⁰ Aune, p. 4, l. 31 to p. 5, l. 3.

at least one subnet between said global IP address pool and said local IP address pool based upon utilization of said local IP address pool. Rather, Aune discloses a reporting function. Specifically, Aune discloses an arrangement by which processors could be adapted to *report* to the global processor with regular intervals.¹¹

For the above reasons, the 35 U.S.C. § 102 rejection of claim 1 based on Aune is unsupported by the art and should be withdrawn.

Dependent Claims 2-8

Claims 2-8 depend from claim 1. Claim 1 being allowable, Claims 2-8 must also be allowable for at least the same reasons.

Claim 2

Claim 2 recites:

The method of claim 1, further comprising configuring said local IP address pool with a subnet from said at least one subnet.

The Examiner states:

... Aune teaches the apparatus further comprises an IP address configurer to configure said local IP address pool with a subnet from said at least one subnet (see lines 16-30 of page 4).¹²

The Applicants respectfully disagree. Contrary to the Examiner's statement, Aune does not disclose configuring said local IP address pool with a subnet from said at least one

¹¹ Aune, p. 5, ll. 23-25. (emphasis added)

¹² Office Action ¶ 4.

subnet. Again, Aune merely discloses giving out a pack of addresses; it says nothing about a contiguous set of one or more IP addresses.

For this additional reason, the 35 U.S.C. § 102 rejection of claim 2 based on Aune is unsupported by the art and should be withdrawn.

Claim 3

Claim 3 recites:

The method of claim 1 wherein said apportioning comprises:
requesting one or more subnet from said global IP address pool if utilization of said local IP address pool exceeds a first threshold; and
releasing one or more subnet to said global IP address pool if utilization of said local IP address pool falls below a second threshold.

The Examiner states:

... Aune teaches the monitor comprises: a utilization assessor to assess utilization of said local IP address pool, said utilization assessor coupled to said local IP address pool see lines 4-20 of page 5); a subnet requestor to request a subnet from said global IP address pool if utilization of said local IP address pool exceeds a first threshold see lines 16-30 of page 4); a subnet receiver to receive said requested subnet and to forward said requested subnet to said local IP address pool, said subnet receiver coupled to said local IP address pool and said global IP address pool interface (see 16-30 of page 4); and a subnet returner to return a subnet to said local IP address pool if said utilization assessor indicates utilization of said local IP address pool is below a second threshold, said subnet returner coupled to said local IP address pool and said global IP address pool interface (see paragraph bridging pages 4 and 5).¹³

The Applicants respectfully disagree. Contrary to the Examiner's statement, Aune does not disclose a monitor. Rather, Aune discloses a reporting function.

Additionally, Aune does not disclose a utilization assessor to assess utilization of

¹³ Office Action ¶ 5.

said local IP address pool, said utilization assessor coupled to said local IP address pool. The Aune reference has a single figure showing one box labeled “AP-Global”, and four boxes labeled “AP”. Neither a monitor nor a utilization assessor is shown.

Additionally, Aune does not disclose a subnet requester to request a subnet from said global IP address pool if utilization of said local IP address pool exceeds a first threshold. Again, Aune merely discloses giving out a pack of addresses; it says nothing about a contiguous set of one or more IP addresses. Furthermore, the cited reference says nothing about making the request when the utilization *exceeds a first threshold*.

Additionally, Aune does not disclose a subnet receiver to receive said requested subnet and to forward said requested subnet to said local IP address pool, said subnet receiver coupled to said local IP address pool and said global IP address pool interface. Again, the Aune reference has a single figure showing one box labeled “AP-Global”, and four boxes labeled “AP”. A subnet receiver is not shown.

Additionally, Aune does not disclose a subnet returner to return a subnet to said local IP address pool if said utilization assessor indicates utilization of said local IP address pool is below a second threshold, said subnet returner coupled to said local IP address pool and said global IP address pool interface. Again, a subnet returner is not shown in the single figure of the Aune reference.

For these additional reasons, the 35 U.S.C. § 102 rejection of claim 3 based on Aune is unsupported by the art and should be withdrawn.

Claim 4

Claim 4 recites:

The method of claim 3 wherein said apportioning further comprises polling said local IP address pool at predetermined intervals to obtain local IP address pool utilization information.

The Examiner states:

... Aune teaches the utilization assessor is further configured to poll said local IP address pool at predetermined intervals to obtain local IP address pool utilization information (see lines 21-27 of page 5).¹⁴

The Applicants respectfully disagree. Contrary to the Examiner's statement, Aune does not disclose polling said local IP address pool at predetermined intervals to obtain local IP address pool utilization information. In support of the Examiner's contention, the Examiner cites the following:

The system could with advantage comprise an arrangement which permit the release of addresses that not has been in use for a long time. E. g. the application processors could be adapted to *report to the global processor* with regular intervals. Should an application processor drop out and not report, the global processor is allowed to release the corresponding IP-addresses for other use.¹⁵

Again, Aune discloses a reporting function whereby application processors *report to* the global processor; Aune does not disclose the recited polling.

¹⁴ Office Action ¶ 6.

¹⁵ Aunc, p. 5, ll. 21-27. (emphasis added)

For this additional reason, the 35 U.S.C. § 102 rejection of claim 4 based on Aune is unsupported by the art and should be withdrawn.

Claim 5

Claim 5 recites:

The method of claim 3 wherein
said requesting further comprises requesting a subnet having first predetermined
number of IP addresses; and
said releasing further comprises releasing a subnet having a second predetermined
number of IP addresses.

The Examiner states:

... Aune teaches the subnet requestor is further configured to request a subnet having first predetermined number of IP addresses (see abstract); and the subnet returner is further configured to release a subnet having a second predetermined number of IP addresses (see abstract).¹⁶

The Applicants respectfully disagree. Again, Aune does not disclose requesting or releasing the recited subnet. Aune merely discloses giving out or returning a pack of addresses; it says nothing about a contiguous set of one or more IP addresses.

For this additional reason, the 35 U.S.C. § 102 rejection of claim 5 based on Aune is unsupported by the art and should be withdrawn.

Claims 6-8

Claim 6 recites:

¹⁶ Office Action ¶ 7.

The method of claim 3 wherein
said requesting further comprises requesting a subnet having a size that is relative to
a current subnet size; and
said releasing further comprises releasing a subnet having a size that is relative to
said current subnet size.

Claim 7 recites:

The method of claim 3 wherein
said requesting further comprises requesting a subnet having a size that is relative to
an initial subnet size; and
said releasing further comprises releasing a subnet having a size that is relative to
said initial subnet size.

Claim 8 as amended recites:

The method of claim 3 wherein
said requesting further comprises requesting a subnet having a predetermined size;
and
said releasing further comprises releasing a subnet having said predetermined size.

The Examiner states:

... Aune teaches the subnet requestor is further configured to request a subnet having
a size that is relative to a current subnet A
initial subnet size (see lines 16-30 of page 4 and lines 4-20 of page 5; note that the
size of the subnet is dynamic and based on usage); and
the subnet returner is further configured to release a subnet having a size that is
relative to said current subnet size or initial subset size (see line 31 of page 4 to line
27 of page 5).¹⁷

The Applicants respectfully disagree. Contrary to the Examiner's statement, Aune does
discloses neither requesting nor releasing a subnet having a size that is relative to a
current subnet size. Nor does Aune disclose releasing or requesting a subnet having a
size that is relative to an initial subset size. In support of the Examiner's statement, the
Examiner refers to portions of Aune that indicate "the size of the blocks should be

¹⁷ Office Action ¶ 8.

dynamically adjusted to achieve as little traffic as possible, without being liberal with the address resources.”¹⁸ But nothing is said of making the determinations based on either a current subnet size or an initial subnet size. The Applicants respectfully suggest that the Examiner’s attempt to equate subnet size as “dynamic and based on usage” with the specific way the size is determined, is improper.

For this additional reason, the 35 U.S.C. § 102 rejection of claims 6-8 based on Aune is unsupported by the art and should be withdrawn.

Claims 13-20, 25-32, and 37-44

Claims 13-20 are *In re Beauregard* claims corresponding to method claims 1-8. Claims 25-32 are means-plus-function claims corresponding to method claims 1-8. Claims 37-44 are apparatus claims corresponding to method claims 1-8. Claims 1-8 being allowable, claims 13-20, 25-32, and 37-44 must also be allowable for at least the same reasons.

Additionally, the Examiner advised that should claims 6,18,30, and 42, respectively, be found allowable, claims 8, 20, 33, and 43, respectively, would be objected to as being a substantial duplicate thereof.¹⁹ With this Amendment, claims 8, 20, 32, and 44 have been amended so that (1) the recited “requesting” comprises requesting a subnet having a *predetermined* size, and (2) the recited “releasing” comprises releasing a subnet having said *predetermined* size.

¹⁸ Aune, p. 5, ll. 17-20.

¹⁹ Office Action ¶ 9.

Accordingly, it is respectfully requested that the rejection of claims based on Einstein be withdrawn. In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

The First 35 U.S.C. §103 Rejection

Claims 9, 10, 21, 22, 33, 34, 45, and 46 stand rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Aune in view of Lin et al.^{20 21}

This rejection is respectfully traversed.

According to M.P.E.P. §2143,

To establish a *prima facie* case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure.

Furthermore, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

Claims 9 and 10 depend from claim 1 and thus includes the limitations of claim 1.
Claims 21 and 22 depend from claim 13 and thus includes the limitations of claim 13.

²⁰ U.S. Patent No. 6,282,575 to Lin et al.

²¹ Office Action, ¶ 11.

Claims 33 and 34 depend from claim 25 and thus includes the limitations of claim 25.

Claims 45 and 46 depend from claim 37 and thus includes the limitations of claim 37.

The arguments made above with respect to claims 1, 13, 25, and 37 apply here as well.

The 35 U.S.C. § 102 rejection of claims 1, 13, 25, and 37 based on Aune is unsupported by the art, as each and every element as set forth in claims 1, 13, 25, and 37 is not disclosed or suggested by Aune. Therefore, the 35 U.S.C. § 103 rejection of dependent claims 9, 10, 21, 22, 33, 34, 45, and 46 based on Aune in view of Lin et al. is also unsupported by the art. Thus, no prima facie case of obviousness has been established and the 35 U.S.C. § 103 rejection should be withdrawn.

Claims 9 and 10

Claim 9 recites:

The method of claim 3 wherein said releasing further comprises removing the summarized route for said one or more subnet from a routing table associated with said local IP address pool.

Claim 10 recites:

The method of claim 8 wherein said method further comprises inserting a route summary for said requested one or more subnet if said requested one or more subnet is received.

In the Office Action, the Examiner specifically contends that the elements of the presently claimed invention are disclosed in Aune except that Aune does not teach the subnet returner is further configured to remove the summarized route for said one or more subnet from a routing table associated with said local IP address pool and the

subnet receiver is further configured to insert a route summary for said requested one or more subnet if said requested one or more subnet is received.²² The Examiner further contends that Lin et al. teaches the above limitations and that it would be obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus and method of Aune with the above teachings of Lin et al.²³ The Examiner further contends the motivation to make such a modification would be to ensure the routers maintain the correct routing information as the system is reconfigured by allocating or deallocating IP addresses.²⁴

The Applicants respectfully disagree. Contrary to the Examiner's statement, Aune does not disclose wherein said releasing further comprises removing the summarized route for said one or more subnet from a routing table associated with said local IP address pool. Nor does Aune disclose inserting a route summary for said requested one or more subnet if said requested one or more subnet is received. In support of the Examiner's contention, the Examiner refers to portions of Lin et al. that disclose updating a router table with the IP address – corresponding to the MAC address of a device. The Applicants respectfully submit that equating “route summary for said one or more subnet” with an IP address-MAC address entry, is improper.

For this additional reason, the 35 U.S.C. § 103 rejection of claims 9 and 10 based on Aune in view of Lin et al. is unsupported by the art and should be withdrawn.

²² Office Action, ¶ 12.

²³ *Id.*

²⁴ *Id.*

The Second 35 U.S.C. §103 Rejection

Claims 12, 24, 36, and 48-50 stand rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Aune in view of the Applicant's admitted prior art (AAPA).²⁵

This rejection is respectfully traversed.

Claims 12, 24, and 36 depend from claims 1, 13, and 25 and thus include the limitations of claims 1, 13, and 25, respectively. Claims 48-50 depend from claim 37 and thus includes the limitations of claim 37. The arguments made above with respect to claims 1, 13, 25, and 37 apply here as well. The 35 U.S.C. § 102 rejection of claims 1, 13, 25, and 37 based on Aune is unsupported by the art, as each and every element as set forth in claims 1, 13, 25, and 37 is not disclosed or suggested by Aune. Therefore, the 35 U.S.C. § 103 rejection of dependent claims 12, 24, 36, and 48-50 based on Aune in view of Lin et al. is also unsupported by the art. Thus, no prima facie case of obviousness has been established and the 35 U.S.C. § 103 rejection should be withdrawn.

In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

²⁵ Office Action, ¶ 13.

Conclusion

It is believed that this Amendment places the above-identified patent application into condition for allowance. Early favorable consideration of this Amendment is earnestly solicited.

Allowable Subject Matter

The Examiner is thanked for the finding of allowable subject matter in claims 11, 23, 35, and 47 if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants acknowledge the Examiner's statement of reasons for allowance as set forth in the Office Action. However, Applicants point out that the reasons for allowability of the above referenced claims are not limited to the reasons for allowance as set forth in the Office Action, and that additional reasons for allowability may exist, each of which may be independently sufficient to establish the patentability of one or more pending claims.

The Applicants respectfully reserve the right to introduce, articulate, or otherwise comment on any such additional reasons for allowance as may be appropriate in any future proceedings concerning the claimed invention.

If, in the opinion of the Examiner, an interview would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney at the number indicated below.


Request for Interview

Applicants respectfully request an interview to expedite the prosecution of this application. Submitted herewith is an Applicant Initiated Interview Request Form. The Examiner is invited to call the undersigned attorney at the number indicated below to schedule a telephonic interview to discuss the matter.

The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-1698.

Respectfully submitted,
THELEN REID & PRIEST, LLP

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John P. Schaub
Reg. No. 42,125

Thelen Reid & Priest LLP
P.O. Box 640640
San Jose, CA 95164-0640
Tel. (408) 292-5800
Fax. (408) 287-8040